**Seed Experiment Lab Report**

**Testable Question:** Will radish seeds grow into radish plants within 10 class periods, if planted with soil and watered daily?

**Hypothesis** (Prediction of what will happen) **If, then…:**

If radish seeds are planted with soil and watered daily for 10 class periods, then they will grow into radish plants.

**Materials:**

* 5 radish seeds
* 1 styrofoam cup
* measuring cups, pipettes
* sink
* spigot water
* pen/pencil
* paper
* paper towels
* ruler
* tester
* three-quarter cup soil
* windowsill
* push pin
* paper plate

**Experimental Protocol** (What will be done? How? Step-by-step, logical approach)**:**

1. Gather materials.
2. Label Styrofoam cup with name.
3. Poke 10 push-pin holes in the bottom of the Styrofoam cup for drainage.
4. Place soil in Styrofoam cup half of the way up.
5. Poke 5 holes in soil, in a circular direction, with finger to place 1 radish seed within each.
6. Put radish seeds in their respective holes.
7. Fill the rest of the Styrofoam cup up with soil, thus burying the radish seeds.
8. Water the soil until it feels moist with a pipette.
9. Place Styrofoam cup on windowsill in the back right corner, with paper plate underneath.
10. Water seeds daily to moisten the soil, unless there is no class that day.
11. Check Styrofoam cup and record observational data.

**Data** (How will you collect information? Tally, graph, chart, simple observations, etc…)**:**

* Day 1 – planted seeds as indicated in experimental protocol. Radish seeds were tiny, reddish in color, and buried within soil. Soil was dark brown with white flecks; it felt spongy and soft; there were also pieces of mulch. Once the soil was watered, it turned almost black in color; it took quite a while for the water to soak in; it actually created a layer of water on top 1st, thus finally soaking in thanks to the drainage created on the bottom.
* Day 2 – Checked on seeds, no growth. Soil was still fairly moist so I didn’t bother watering the seeds today. Soil was still dark brown with white flecks.
* Day 3 – Checked on seeds, still no growth. Soil was wet, but knowing that a weekend was coming, I added additional water, and unfortunately it added a layer of water on top, thus overwatering. I hope this won’t kill my seeds, we shall see on Monday
* Day 4 – Checked on seeds, starting to see 1 piece of green protruding through the soil, too tiny yet to measure. The soil is still brownish in color and feels fairly soft. Soil will be watered a tiny amount thus allowing the soil to feel moist.
* Day 5 – Checked on seeds, seeing 2 pieces of green, 1 is a bit taller than the other by .5mm. Still having a tough time measuring because I’m not sure how deep the seeds actually are. No watering necessary today because the soil was still moist from yesterday.
* Day 6 – Checked on seeds, now seeing 4 pieces of green sprouts – 2 are exactly the same size at approximately .75mm, 1 has grown to 1.5 cm, and 1 is 2.3 cm tall. The sprouts have a greenish-yellow stem, and no flowering components yet. Did not water today because the soil was still fairly moist and I don’t want to drown what growth I have and hope to continue to have.
* Day 7 – Checked on seeds/sprouts, all seeds have now poked through the soil. 1 sprout is teeny yet, just having sprouted, another is just ahead, 2 are still exactly the same size, and 1 is very tall compared to the rest, having been the first to poke through the soil. The tallest sprout now has green pieces growing off the stem, as well as the 2 that are the exact same size. Not watering again today because the soil is still wet.
* Day 8 – Will water today, and add some extra knowing today is the weekend. Checked on the sprouts and all seem healthy, greenish in color, flowers on all and getting taller each day.
* Day 9 – After the weekend, there has been much growth by sight, and by measurement, the flowers have really grown. Plant 1 – 5 cm and starting to lean towards the sun, plant 2 & 3 are identical in size at 4.7 cm, Plant 4 – 3.9 cm, and plant 5 – 3.1 cm. I’m not sure what’s allowing the plants to catch up so closely in height to the tallest sprout, but all are looking healthy and happy. Lots of green, several flower components on each sprout. Added a small amount of water because soil felt slightly dry.
* Day 10 – last data collection day: very happy to know that all of my seeds sprouted at varying heights and varying days, with varying colors and healthiness. Seed experiment ended with Plant 1 – 6.9 cm and leaning towards sun, with 6 leaves, plant 2 & 3 – still identical sizes and colors and leaf amount at 5 6.2 cm, plant 4 – bending over, making it hard to measure at 4.8 cm and plant 5 – 4 green leaves at 4.7 cm. No watering today since experiment is now over.

**Conclusion** (Accurate interpretation of the data, was your hypothesis correct or not, suggestions of possible error, how could your design be improved?)**:**

According to the data collected within my experiment, radish seeds do grow within 10 days, 4 class periods, specifically. This information indicated that my hypothesis was correct. Places for error could have occurred within: not knowing how deeply I placed the seeds, not knowing the exact placement of seeds, not watering on a daily basis, only watering when soil was moist, not placing my cup in the exact same location on the window, etc…The design could have been improved by specifying a specific water amount everyday, using a ruler to determine how deep the seeds were planted, placing the cup in direct sunlight, having a constant amount of light, labeling the seeds etc…